



Blacklands IPM Update



GENERAL:

Wheat has made a lot of progress since the last newsletter. Fields in the scouting program have jointed and some have as many as two nodes visible above the ground. I was in a wheat field in Southern McLennan County, as tillers were starting to head out, but the majority of the tillers were still in the boot stage. This is a key time in the development of wheat as the growing point has now moved above the soil surface. Applications of fertilizer at this time needs to be done with caution, a product with an extreme pHs or excessive salts can damage the growing point and young seed head. Insect pest are starting to increase in some area fields, while rust diseases have levelled out and reduced in severity.

WHEAT

Insects in wheat are starting to pick up, with a few fields with heavy bird cherry oat aphids, most of these fields are South and West of Hillsboro. Bird cherry oat aphids are present in 71 percent of the scouting programs fields, with 31 percent of the fields needing to be treated. These populations are starting to have some winged aphids meaning they could be moving into new fields soon by riding wind currents as they are not strong fliers. There is a chance that a few of these fields not at threshold yet will need to be sprayed next week depending on how well our beneficial insect population is managing the population. I still have not found a field with a greenbug population yet, but fields should still be checked for them as these populations can build quickly with our current weather pattern. There is not an established economic threshold for the bird cherry oat aphid in Texas wheat, but John Few, IPM Program Specialist in Williamson County found an article from the University of Nebraska, showing their economic threshold based on the growth stage of the field (**Table 1**).

Table 1. Action Threshold for Bird Cherry Oat Aphids in Wheat

Number of Bird Cherry Oat Aphids per tiller that justifies treatment					
Species	Seed-ling	Boot to Heading	Flower-ing	Milky Ripe	Milk to Medium Dough
Bird cherry-oat aphid	20	30	>5	10	10
Table compiled by John Few, Extension IPM Program Specialist using data from University of Nebraska and Oklahoma State University.					

I have also started picking up some English grain aphids, these insects have black antennae, cornicles and legs which helps to tell the apart form greenbugs. They seldomly become an economic pest, but are vectors of Barley Yellow Dwarf Virus. Texas does not have an established economic threshold for the English grain aphid, and it is suggested to use the Nebraska economic threshold which is, 5 or more aphids per stem during flowering, 10 or more per stem during milk stage, and more than 10 per stem between milk and medium dough stage. Currently the English grain aphids are being found in only two fields in the scouting program around the Abbott area.

Rust is still present in area fields, but the severity of the diseases in the fields in the scouting program is still extremely low. The field I was in this week in Southern McLennan counties had a high severity of leaf rust and stripe rust. This could be an indication of what is to come as far as rust in wheat, but will depend strongly on having long enough period of leaf wetness to favor infection of either pathogen. Both stripe rust and leaf rust in present in area fields and infection has remained on the lower leaves. Now that we are jointing, we will start seeing the resistance to these pathogens starting to work. So, a variety like WB Cedar should not have significant amounts of stripe rust from here on out depending on if there was a shift in fungal strains that is able to overcome the resistant genes. On varieties susceptible to stripe rust, this disease will remain in area fields if our nightly low temperatures keep dropping below 64 F. Leaf rust is starting to infect area fields, and now that fields are jointing our host plant resistance to this disease should start to show. Leaf rust around the area is not a major issue yet, but down in South Texas and the Texas Winter Garden this disease is becoming severe.

Should I spray for aphids now or wait until I need a fungicide? A common question gets answered.

Some people are up in the air about spraying for bird cherry oat aphids right now wanting to wait to treat until they spray the field with a fungicide to protect the flag leaf. Three concerns I see with waiting are 1) some fields may lose yield potential before the flag leaf emerges because of the population size, 2) not every wheat variety is going to need a fungicide thanks to host plant resistance, and 3) we are not sure our weather conditions after flag leaf emergence is going to be conducive for the development of rust diseases (leaf rust or stripe rust). A publication from Oklahoma State University found that 20 aphids per tiller before boot can lead to a 5 percent yield loss, and 40 aphids per tiller prior to boot can cause a 9 percent yield reduction. I have seen field population close to these numbers, and very little beneficial activity in these fields. Based on these observations and the data from OSU, depending on the population, there could be a yield loss of up to 9 percent or greater. If this potential yield is lost, by the time we need to spray a fungicide, there may not be a high enough yield potential to justify the application of a fungicide. The second concern is because of host plant resistance to our rust pathogens not every field is going to need a fungicide application, but at the same time very few wheat varieties for the state of Texas has resistance to bird cherry oat aphids. In these varieties we may not need a fungicide application and could see extensive yield loss if the bird cherry oat aphid population is not treated. In rust susceptible varieties if aphid populations are not treated now, we may not have a high enough yield potential to justify a fungicide application. The third concern is we can not predict what the weather is going to be like in a month or more. Rust pathogens need specific weather conditions to cause disease. So, it is hard to know whether we will need a fungicide to protect the upper three leaves from becoming severely diseased which can lead to yield loss. Based on the potential yield loss that can be caused by bird cherry oat aphids it is recommended to treat fields for aphids once the threshold in **Table 1** is reached regardless of growth stage to prevent yield loss as we do not know if or when we will need to apply a fungicide. It is understood that some producers and even consultants are wanting to hold off on treating the aphid population until it is time to apply a fungicide to save on the number of applications to a field which can reduce input cost. We also need to look at it is if there is a potential for a cost of application for separate applications of an insecticide now and a fungicide later could still be less than the value of the yield that would be preserved by applying an insecticide now.

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